

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) An apparatus housed in a wireless mobile station for efficiently processing an Internet Protocol (IP) packet incoming to the mobile station, comprising:

a receiver, at the mobile station tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network, for wirelessly receiving an IP packet having a Transmission Control Protocol/Internet Protocol (TCP/IP) header, wherein the TCP/IP header comprises a Van Jacobson (VJ) compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a Packet Data Service Node (PDSN) in communication with the mobile station via the wireless network;

a storage at the mobile station, communicatively associated with said receiver, for storing a list, wherein the list comprises at least one VJ connection identification, wherein the at least one VJ connection identification identifies at least one of a first source having an active TCP/IP session with an active application on the mobile station, or a first destination corresponding to the active application on the mobile station, or a second source or a second destination both not corresponding to the active application on the mobile station; and

a comparator at the mobile station for comparing the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet based on the result of the comparing,

wherein the IP packet is forwarded without decompressing the IP packet, to the intended destination if the comparing determines that the connection identification does not correspond to the active application on the mobile station, and

wherein the IP packet is forwarded, with decompressing the IP packet, to the intended destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

2. (Previously Presented) The apparatus of claim 1, wherein said comparator forwards the IP packet, without decompressing the IP packet, if the connection identification of the IP packet matches the at least one VJ connection identification identifying either of the second source or the second destination.

3. (Canceled)

4. (Previously Presented) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active destination at the mobile station.

5. (Previously Presented) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active destination at the terminal equipment associated with the mobile station.

6. - 8. (Canceled)

9. (Previously Presented) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active originator of a communication between the mobile station and remote equipment corresponding to the site associated with the PDSN.

10. - 14. (Canceled)

15. (Previously Presented) A filter housed on a wireless mobile station for efficiently processing data packet incoming to the mobile station, comprising:

a receiver at the mobile station for wirelessly receiving Internet Protocol (IP) data packets including Van Jacobson (VJ) compressed and uncompressed data packets;

a delineator at the mobile station for identifying the IP data packets from the VJ uncompressed data packets, wherein said delineator identifies a connection identification in at least one of the VJ uncompressed packets as destined for the mobile station, and wherein said delineator forwards the connection identification to a connection identification list for use by the delineator in subsequently assessing a destination of VJ compressed packets associated with the at least one of VJ uncompressed packets; and

a tether to at least one terminal equipment communicatively associated with said delineator,

wherein for a VJ compressed packet identified by the delineator as destined for the tethered terminal equipment, the delineator forwards the packet to the terminal equipment without decompressing the VJ compressed packet, and

wherein for a VJ compressed packet identified by the delineator as destined for the mobile station, the delineator decompresses the VJ compressed packet.

16. (Previously Presented) The filter of claim 15, wherein, upon identification by said delineator of an IP packet destined for the mobile station, said delineator seeks a received connection identification in a subsequent one of the VJ uncompressed packets.

17. (Canceled)

18. (Currently Amended) The filter of claim ~~[[17]]~~ 15, wherein for ones of the VJ uncompressed packets not identified as destined for the mobile station, the delineator forwards the ones to the terminal equipment.

19. (Canceled)

20. (Original) The filter of claim 15, further comprising a snoopers, wherein the connection identification list is maintained at said snoopers.

21. (Previously Presented) The filter of claim 20, wherein at least one subsequent VJ compressed packet corresponding to a one of the VJ uncompressed packets having the connection identification on the connection identification list is uncompressed at the mobile station by said snoopers.

22. (Previously Presented) A method for efficiently processing a Van Jacobson (VJ) compressed data packet incoming to a wireless mobile station, comprising:

wirelessly receiving, at the mobile station tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network, an IP packet having a Transmission Control Protocol/Internet Protocol (TCP/IP) header, wherein the TCP/IP header comprises a VJ compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a Packet Data Service Node (PDSN) in communication with the mobile station via the wireless network, wherein the IP packet defines a VJ compressed data packet;

storing a list, at the mobile station, wherein the list comprises at least one VJ connection identification, wherein the at least one VJ connection identification identifies at least one of a first source having an active TCP/IP session with an active application on the mobile station, or a first destination corresponding to the active application on the mobile station, or a second source or a second destination both not corresponding to the active application on the mobile station; and

comparing, at the mobile station, the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet based on the result of the comparing,

wherein the IP packet is forwarded without decompressing the IP packet, to the intended destination if the comparing determines that the connection identification does not correspond to the active application on the mobile station, and

wherein the IP packet is forwarded, with decompressing the IP packet, to the intended destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

23. (Previously Presented) The method of claim 22, further comprising:  
alternatively uncompressing the VJ compressed data packet locally to the received connection identifier.

24. (Previously Presented) The method of claim 23, wherein said uncompressing is local at the mobile station.

25. (Previously Presented) The method of claim 22, wherein the list comprises the at least one VJ connection identification of an active destination.

26. (Previously Presented) The method of claim 22, wherein the list comprises the at least one VJ connection identification of an active originator.

27. (Previously Presented) The method of claim 22, wherein said uncompressing is local at the terminal equipment associated with the mobile station.

28. (Currently Amended) A method for efficiently filtering at least one packet incoming to a wireless mobile station having a tethered terminal equipment, comprising:

wirelessly receiving Internet Protocol (IP) data packets and Van Jacobson (VJ) compressed and uncompressed data packets at the mobile station;

identifying the IP data packets from the VJ uncompressed data packets at the mobile station;

identifying a connection identification as destined for the mobile station in a one of the VJ uncompressed packets upon said identifying of the one of the VJ uncompressed packets;

forwarding the connection identification to a connection identification list at the mobile station for use by a delineator, at the mobile station, in subsequently assessing a destination of VJ compressed packets, received at the mobile station, associated with the one of the VJ uncompressed packets;

identifying at the delineator whether a VJ compressed data packet is destined for the mobile station or for the tethered terminal equipment; and

forwarding the VJ compressed data packet from the mobile station to the tethered terminal equipment without decompression when the delineator identifies the packet as being destined for the terminal equipment.

29. (Original) The method of claim 28, further comprising subsequently assessing a destination of at least one VJ compressed packet associated with the one of the VJ uncompressed packets in accordance with the connection identification list.

30. (Previously Presented) The method of claim 29, further comprising seeking a received connection identification in a subsequent one of the VJ uncompressed packets upon identifying a one of the IP packets as destined for the mobile station.

31. (Canceled)

32. (Canceled)

33. (Previously Presented) A system for efficiently processing a packet incoming to a wireless mobile station operable for wireless communication with a Packet Data Service Node (PDSN), comprising:

a receiver for wirelessly receiving IP and TCP/IP packets from the PDSN;

a filter resident on said mobile station that differentiates an IP packet and a Transmission Control Protocol/Internet Protocol (TCP/IP) packet having a VJ compressed header and a VJ connection identification, wherein the IP packet and the TCP/IP packet are received from the PDSN;

a snooper housed on said mobile station, wherein said snooper is operable to receive the TCP/IP packet having the VJ compressed header from the filter, and to compare the VJ connection identification to a list, stored on the mobile device, that includes a first connection identification corresponding to an active application on the mobile station, and a second connection identification corresponding to an active application on a terminal equipment tethered to the mobile station such that the mobile station is operable to provide the terminal equipment with access to a wireless network,

wherein the snooper is operable to decompress the VJ compressed header to define a VJ uncompressed header and forward the TCP/IP packet with the VJ uncompressed header to the mobile station if the snooper determines that the VJ connection identification matches the first connection identification, and

wherein the snooper is operable to forward the TCP/IP packet with the VJ compressed header to the terminal equipment, without decompression, if the VJ connection identification matches the second connection identification; and

a connection corresponding to the active application on the mobile station and local to said mobile station for receiving the TCP/IP packet having the VJ uncompressed header if the VJ connection identification matches the first connection identification in the list.

34. (Currently Amended) A snooper housed on a wireless mobile station for efficiently processing at least one Internet Protocol (IP) packet incoming to the mobile station from a Packet Data Service Node (PDSN), comprising:

a storage element at the mobile station for storing a list of Van Jacobson (VJ) connection identifications (CID), each VJ CID associated with an active application running on the mobile station or associated with a terminal equipment tethered to the mobile station such that the mobile station is operable to provide the terminal equipment with access to a wireless network; and

a processing element configured to differentiate between a packet with a VJ CID and a packet without a VJ CID, and if the packet has a VJ CID, to compare the VJ CID against the list of VJ CIDs in the list, and to forward the packet based on the comparison, wherein the processing element decompresses a compressed VJ header and forwards the packet with the decompressed VJ header to the active application running on the mobile station if the VJ CID of the packet matches the VJ CID associated with the active application running on the mobile station, and forwards the packet to the terminal equipment without decompression of ~~the compressed VJ header to the terminal equipment~~ [[with]] the compressed VJ header to the terminal equipment if the VJ CID of the packet matches the VJ CID associated with the terminal equipment.

35. – 36. (Canceled)

37. (Previously Presented) A method for assessing the destination of an Internet Protocol (IP) packet that has arrived wirelessly at a wireless mobile station (MS), the method comprising:

maintaining a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

determining at the MS whether the IP packet has a Transmission Control Protocol/Internet Protocol (TCP/IP) packet header;



determining at the MS whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

if the TCP/IP packet header is VJ uncompressed, then assessing at the MS a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to the CID list;

if the TCP/IP packet header is VJ compressed, then comparing at the MS the CID of the IP packet to each CID on the CID list;

if the CID of the IP packet is on the CID list and corresponds to the active MS application, then uncompressing the VJ compressed header and passing the IP packet to the MS with the uncompressed VJ compressed header; and

if the CID of the IP packet is not on the CID list or corresponds to the active TE application, then forwarding the IP packet to the TE without uncompressing the VJ compressed header.

38. (Canceled)

39. (Previously Presented) Apparatus for assessing the destination of an Internet Protocol (IP) packet that has arrived wirelessly at a wireless mobile station (MS) without uncompressing a compressed header of the IP packet, wherein the MS acts as a gateway for applications running on either the MS or a terminal equipment (TE) tethered to the MS, the apparatus comprising:

means for maintaining a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

means for determining at the MS whether the IP packet has a Transmission Control Protocol/Internet Protocol (TCP/IP) packet header and for determining whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

means for assessing at the MS a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to the CID list if the TCP/IP packet header is VJ uncompressed;

means for comparing at the MS the CID of the IP packet to each CID on the CID list if the TCP/IP packet header is VJ compressed; and

means for uncompressing the VJ compressed header and passing the IP packet to the MS with the uncompressed VJ compressed header if the CID of the IP packet is on the CID list and corresponds to the active MS application, and for passing the IP packet to the TE without uncompressing the VJ compressed header if the CID of the IP packet is not on the CID list or corresponds to the active TE application.

40. (Previously Presented) The apparatus of claim 1, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

41. (Previously Presented) The filter of claim 15, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

42. (Previously Presented) The method of claim 22, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

43. (Previously Presented) The method of claim 28, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

44. (Previously Presented) The system of claim 33, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

45. (Previously Presented) The snooper of claim 34, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

46. (Previously Presented) The method of claim 37, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

47. (Previously Presented) The apparatus of claim 39, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

48. (Previously Presented) A software module embodied in a computer readable storage medium, the storage medium encoded with code capable of being executed by a computer for efficiently processing a Van Jacobson (VJ) compressed data packet incoming to a wireless mobile station, comprising:

a first module operable to cause the mobile station to wirelessly receive an IP packet having a Transmission Control Protocol/Internet Protocol (TCP/IP) header, wherein the TCP/IP header comprises a VJ compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a Packet Data Service Node (PDSN), in communication with the mobile station via the wireless network, wherein the IP packet defines a VJ compressed data packet, wherein the mobile station is tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network;

a second module operable to cause the mobile station to store a list, wherein the list comprises at least one VJ connection identification, wherein the at least one VJ connection identification identifies at least one of a first source having an active TCP/IP session with an active application on the mobile station, or a first destination corresponding to the active

application on the mobile station, or a second source or a second destination both not corresponding to the active application on the mobile station; and

a third module operable to cause the mobile station to compare the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet, without decompressing the IP packet, to the intended destination if the comparing determines that the connection identification does not correspond to the active application on the mobile station, and forwarding the IP packet, with decompressing the IP packet, to the intended destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

49. (Currently Amended) A software module embodied in a computer readable storage medium, the storage medium encoded with code capable of being executed by a computer for efficiently filtering at least one packet incoming to a wireless mobile station having a tethered terminal equipment, comprising:

a first module operable to cause the mobile station to wirelessly receive IP data packets and Van Jacobson (VJ) compressed and uncompressed data packets;

a second module operable to cause the mobile station to identify the IP data packets from the VJ uncompressed data packets;

a third module operable to cause the mobile station to identify a connection identification as destined for the mobile station in a one of the VJ uncompressed packets upon said identifying of the one of the VJ uncompressed packets;

a fourth module operable to cause the mobile station to forward the connection identification to a connection identification list for use by the delineator in subsequently assessing a destination of VJ compressed packets associated with the one of the VJ uncompressed packets without decompressing the packets;

a fifth module operable to cause the mobile station to identify at the delineator whether a VJ compressed data packet is destined for the mobile station or for the tethered terminal equipment; and

a sixth module operable to cause the mobile station to forward the VJ compressed data packet from the mobile station to the tethered terminal equipment without decompression when the delineator identifies the packet as being destined for the terminal equipment.

50. (Previously Presented) A software module embodied in a computer readable storage medium, the storage medium encoded with code capable of being executed by a computer for assessing the destination of an Internet Protocol (IP) packet that has arrived at a wireless mobile station (MS), the software module comprising:

a first module operable to cause the MS to maintain a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

a second module operable to cause the MS to determine whether the IP packet has a Transmission Control Protocol/Internet Protocol (TCP/IP) packet header;

a third module operable to cause the MS to determine whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

a fourth module operable, if the TCP/IP packet header is VJ uncompressed, to cause the MS to assess a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to the CID list;

a fourth module operable, if the TCP/IP packet header is VJ compressed, to cause the MS to compare the CID of the IP packet to each CID on the CID list and to:

uncompress the VJ compressed header and pass the IP packet to the MS with the uncompressed VJ compressed header, if the CID of the IP packet is on the CID list and corresponds to the active MS application; and

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forward the IP packet to the TE without uncompressing the VJ compressed header, if the CID of the IP packet is not on the CID list or corresponds to the active TE application.